Amendments to the Claims

Please amend the claims as follows:

1. (currently amended) A method of forming a uniform nitride dielectric layer over a nitride resistive material and a nitride receptive material, the method comprising the steps of:

implanting a surface-modifying agent into exposed surfaces of the nitride resistive material, the surface-modifying agent capable of modifying the surface of the nitride resistive material to enhance nitride nucleation thereon;

forming the nitride dielectric layer on the nitride resistive material and the nitride receptive material, whereby the surface-modifying agent provides for formation of a uniform thickness of the nitride dielectric layer over the nitride resistive material and the nitride receptive material.

2. (original) The method of Claim 1, wherein the surface-modifying agent comprises an ionizable nitrogen or silicon material.

3. (original) The method of Claim 2, wherein the surface-modifying agent comprises a nitrogen-containing gas.

4. (original) The method of Claim 3, wherein the nitrogen-containing gas is selected from the group consisting of trifluoronitride, nitrogen, ammonia, nitrous oxide, and nitric oxide.

5. (original) The method of Claim 3, wherein the nitrogen-containing gas comprises trifluoronitride.

6. (original) The method of Claim 2, wherein the surface-modifying agent comprises a silicon-containing gas.

7. (original) The method of Claim 6, wherein the silicon-containing gas is selected from the group consisting of silicon tetrafluoride, silane, dichlorosilane, trichlorosilane, and silicon tetrachloride.

8. (original) The method of Claim 6, wherein the silicon-containing gas comprises silicon tetrafluoride.

9. (original) The method of Claim 1, wherein the surface-modifying agent is implanted by low angle implantation.

10. (original) The method of Claim 9, wherein the surface-modifying agent is implanted at an angle of about 60° to about 85° from vertical.

11. (original) The method of Claim 1, wherein the surface-modifying agent is implanted into the nitride resistive material at a dose amount of about 1012 to about 1022 atoms/cm^3.

12. (original) The method of Claim 1, wherein the nitride resistive material comprises an insulative material.

13. (original) The method of Claim 12, wherein the insulative material is selected from the group consisting of silicon dioxide, phosphosilicate glass, borosilicate glass, and borophosphosilicate glass.

14. (original) The method of Claim 12, wherein the insulative material comprises borophosphosilicate glass.

15. (original) The method of Claim 1, wherein the nitride receptive material comprises a semiconductive material.

16. (original) The method of Claim 15, wherein the semiconductive material comprises polysilicon or hemispherical grain silicon.

17. (original) The method of Claim 15, wherein the semiconductive material comprises hemispherical grain silicon.

18. (original) The method of Claim 1, wherein the nitride receptive material comprises a conductive material.

19. (original) The method of Claim 18, wherein the conductive material comprises a conductive metal.

20. (currently amended) A method of forming a uniform nitride dielectric layer over a nitride resistive material and a nitride receptive material, the method comprising the steps of:

implanting a surface-modifying agent comprising an ionizable nitrogen material into the nitride resistive material, the surface-modifying agent capable of modifying the nitride resistive material to enhance nitride nucleation thereon; and

forming the nitride dielectric layer on the nitride resistive material and the nitride receptive material, whereby the implanted surface-modifying agent provides for formation of a uniform thickness of the nitride dielectric layer over the nitride resistive material and the nitride receptive material.

21. (original) The method of Claim 20, wherein the surface-modifying agent comprises a nitrogen-containing gas selected from the group consisting of trifluoronitride, nitrogen, ammonia, nitrous oxide, and nitric oxide.

22. (original) The method of Claim 20, wherein the nitride resistive material comprises an insulative material.

23. (original) The method of Claim 20, wherein the nitride receptive material comprises a semiconductive material.

24. (original) The method of Claim 20, wherein the nitride receptive material comprises a conductive material.

25. (currently amended) A method of forming a uniform nitride dielectric layer over a nitride resistive material and a nitride receptive material, the method comprising the steps of:

implanting a surface-modifying agent comprising an ionizable silicon material into the nitride resistive material, the surface-modifying agent capable of modifying the nitride resistive material to enhance nitride nucleation thereon; and

forming the nitride dielectric layer on the nitride resistive material and the nitride receptive material, whereby the implanted surface-modifying agent provides for formation of a uniform thickness of the nitride dielectric layer over the nitride resistive material and the nitride receptive material.

26. (original) The method of Claim 25, wherein the surface-modifying agent comprises a silicon-containing gas selected from the group consisting of silicon tetrafluoride, silane, dichlorosilane, trichlorosilane, and silicon tetrachloride.

27. (original) The method of Claim 25, wherein the nitride resistive material comprises an insulative material.

28. (original) The method of Claim 25, wherein the nitride receptive material comprises a semiconductive material.

29. (original) The method of Claim 25, wherein the nitride receptive material comprises a conductive material.

30. (currently amended) A method of forming a uniform dielectric layer over a substrate comprising adjacent portions of an insulative material and a semiconductive material, the method comprising the steps of:

implanting a surface-modifying agent comprising a nitrogen-containing gas or a silicon-containing gas into the insulative material, the surface-modifying agent capable of modifying the insulative material to enhance nitride nucleation thereon; and

forming the dielectric layer on the insulative material and the semiconductive material, whereby the implanted surface-modifying agent provides for formation of a uniform thickness of the dielectric layer over the insulative material and the semiconductive material of the substrate.

31. (original) The method of Claim 30, wherein the surface-modifying agent comprises a nitrogen-containing gas selected from the group consisting of trifluoronitride, nitrogen, ammonia, nitrous oxide, and nitric oxide.

32. (original) The method of Claim 30, wherein the surface-modifying agent comprises a silicon-containing gas selected from the group consisting of silicon tetrafluoride, silane, dichlorosilane, trichlorosilane, and silicon tetrachloride.

33. (currently amended) A method of forming a uniform dielectric layer over a substrate comprising adjacent portions of an insulative material and a conductive material, the method comprising the steps of:

implanting a surface-modifying agent comprising a nitrogen-containing gas or a silicon-containing gas into the insulative material, the surface-modifying agent capable of modifying the insulative material to enhance nitride nucleation thereon; and

forming the dielectric layer on the insulative material and the conductive material, whereby the implanted surface-modifying agent provides for formation of a uniform thickness of the dielectric layer over the insulative material and the conductive material of the substrate.

34. (original) The method of Claim 33, wherein the surface-modifying agent comprises a nitrogen-containing gas selected from the group consisting of trifluoronitride, nitrogen, ammonia, nitrous oxide, and nitric oxide.

35. (original) The method of Claim 33, wherein the surface-modifying agent comprisesa silicon gas selected from the group consisting of silicon tetrafluoride, silane, dichlorosilane, trichlorosilane, and silicon tetrachloride.

36. (currently amended) A method of forming a nitride dielectric layer in a capacitor container in a semiconductor substrate, the capacitor container comprising an opening formed in a layer comprising a nitride resistive material, and a lower electrode comprising a nitride receptive material formed within the container opening; the method comprising the steps of:

implanting a surface-modifying agent by low angle implantation into exposed surfaces of the nitride resistive material layer, the surface-modifying agent capable of modifying the nitride resistive material layer to enhance nitride nucleation thereon; and

forming the nitride dielectric layer over the nitride resistive material layer and the lower electrode, whereby the surface-modifying agent provides for formation of a uniform thickness of the nitride dielectric layer over the nitride resistive material layer and the lower electrode.

37. (original) The method of Claim 36, wherein the surface-modifying agent is implanted into the nitride resistive material layer within the container opening and at corners of the container opening.

38. (original) The method of Claim 36, wherein the surface-modifying agent is implanted at an angle of about 60° to about 85° from vertical.

39. (original) The method of Claim 36, wherein the step of implanting the surface-modifying agent further comprises rotating the semiconductor substrate during the implantation.

40. (original) The method of Claim 36, wherein the surface-modifying agent is implanted into the nitride resistive material layer at a dose amount of about 1012 to about 1022 atoms/cm^3.

41. (original) The method of Claim 36, wherein the surface-modifying agent comprises a nitrogen-containing gas.

42. (original) The method of Claim 41, wherein the nitrogen-containing gas is selected from the group consisting of trifluoronitride, nitrogen, ammonia, nitrous oxide, and nitric oxide.

43. (original) The method of Claim 41, wherein the surface-modifying agent comprises trifluoronitride.

44. (original) The method of Claim 36, wherein the surface-modifying agent compriss a silicon-containing gas.

45. (original) The method of Claim 44, wherein silicon-containing gas is selected from the group consisting of silicon tetrafluoride, silane, dichlorosilane, trichlorosilane, and silicon tetrachloride.

46. (original) The method of Claim 44, wherein the surface-modifying agent comprises silicon tetrafluoride.

47. (original) The method of Claim 36, wherein the nitride resistive material comprises an insulative material.

48. (original) The method of Claim 47, wherein the insulative material is selected from the group consisting of silicon dioxide, phosphosilicate glass, borosilicate glass, and borophosphosilicate glass.

49. (original) The method of Claim 47, wherein the insulation layer comprises borophosphosilicate glass.

50. (original) The method of Claim 36, wherein the nitride receptive material comprises a semiconductive material.

51. (original) The method of Claim 50, wherein the semiconductive material is selected from the group consisting of polysilicon and hemispherical grain silicon.

52. (original) The method of Claim 50, wherein the semiconductive material comprises hemispherical grain silicon.

53. (original) The method of Claim 36, wherein the nitride receptive material comprises a conductive material.

54. (original) The method of Claim 53, wherein the conductive material comprises a conductive metal.

55. (currently amended) A method of forming a nitride dielectric layer in a capacitor container in a semiconductor substrate, the capacitor container comprising an opening formed in a layer comprising a nitride resistive material, and a lower electrode comprising a nitride receptive material formed within the container opening; the method comprising the steps of:

while rotating the semiconductor substrate, implanting a surface-modifying agent by low angle implantation into exposed surfaces of the nitride resistive material layer within the container opening and at corners of the container opening, the surface-modifying agent

capable of modifying said surfaces of the nitride resistive material layer to enhance nitride nucleation thereon; and

forming the nitride dielectric layer over the nitride resistive material layer and the lower electrode, whereby the surface-modifying agent provides for formation of a uniform thickness of the nitride dielectric layer over the nitride resistive material layer and the lower electrode.

56. (original) The method of Claim 55, wherein the surface-modifying agent is implanted at an angle of about 60° to about 85° from vertical.

57. (original) The method of Claim 55, wherein the surface-modifying agent is implanted into the nitride resistive material layer at a dose amount of about 1012 to about 1022 atoms/cm^3.

58. (original) The method of Claim 55, wherein the surface-modifying agent comprises a nitrogen-containing gas selected from the group consisting of trifluoronitride, nitrogen, ammonia, nitrous oxide, and nitric oxide.

59. (original) The method of Claim 55, wherein the surface-modifying agent comprises a silicon-containing gas selected from the group consisting of silicon tetrafluoride, silane, dichlorosilane, trichlorosilane, and silicon tetrachloride.

60. (currently amended) A method of forming a nitride dielectric layer in a capacitor container in a semiconductor substrate, the capacitor container comprising an opening formed in an insulation layer, and a lower electrode formed within the container opening; the method comprising the steps of:

implanting a surface-modifying agent comprising an ionizable nitrogen-containing gas by low angle implantation into the insulation layer, the surface-modifying agent capable of modifying the insulation layer to enhance nitride nucleation thereon; and

forming the nitride dielectric layer over the insulation layer and the lower electrode, whereby the implanted surface-modifying agent provides for formation of a uniform thickness of the nitride dielectric layer over the insulation layer and the lower electrode.

61. (original) The method of Claim 60, wherein the nitrogen-containing gas is selected from the group consisting of trifluoronitride, nitrogen, ammonia, nitrous oxide, and nitric oxide.

62. (original) The method of Claim 60, wherein the surface-modifying agent is implanted at an angle of about 60° to about 85° from vertical.

63. (original) The method of Claim 60, wherein the step of implanting the surface-modifying agent species further comprises rotating the semiconductor substrate during the implantation.

64. (original) The method of Claim 60, wherein the surface-modifying agent is implanted into the insulation layer exposed within the container opening and at corners of the container opening.

65. (original) The method of Claim 60, wherein the surface-modifying agent is implanted into the insulation layer at a dose amount of about 1012 to about 1022 atoms/cm^3.

66. (currently amended) A method of forming a nitride dielectric layer in a capacitor container in a semiconductor substrate, the capacitor container comprising an opening formed in an insulation layer, and a lower electrode formed within the container opening; the method comprising the steps of:

implanting a surface-modifying agent comprising an ionizable silicon-containing gas by low angle implantation into the insulation layer, the surface-modifying agent capable of modifying the insulation layer to enhance nitride nucleation thereon; and

forming the nitride dielectric layer over the insulation layer and the lower electrode, whereby the implanted surface-modifying agent provides for formation of a uniform thickness of the nitride dielectric layer over the insulation layer and the lower electrode.

67. (original) The method of Claim 66, wherein the silicon-containing gas is selected from the group consisting of silicon tetrafluoride, silan, dichlorosilane, trichlorosilane, and silicon tetrachloride.

68. (original) The method of Claim 66, wherein the surface-modifying agent is implanted at an angle of about 60° to about 85° from vertical.

69. (original) The method of Claim 66, wherein the step of implanting the surface-modifying agent species further comprises rotating the semiconductor substrate during the implantation.

70. (original) The method of Claim 66, wherein the surface-modifying agent is implanted into the insulation layer exposed within the container opening and at corners of the container opening.

71. (original) The method of Claim 66, wherein the surface-modifying agent is implanted into the insulation layer at a dose amount of about 1012 to about 1022 atoms/cm^3.

72. (currently amended) A method of forming a capacitor in a semiconductor device, comprising the steps of:

providing a substrate comprising an nitride resistive material layer overlying the substrate, a container opening formed in the nitride resistive material layer; and a lower electrode comprising a nitride receptive material formed within the container opening; the method comprising the steps of:

implanting a surface-modifying agent by low angle implantation into exposed surfaces of the nitride resistive material layer, the surface-modifying agent capable of modifying said surfaces of the nitride resistive material layer to enhance nitride nucleation thereon; and

forming a nitride dielectric layer over the nitride resistive material layer and the lower electrode, whereby the surface-modifying agent provides for formation of a uniform thickness of the nitride dielectric layer over the nitride resistive material layer and the lower electrode.

73. (original) The method of Claim 72, wherein the surface-modifying agent is implanted at an angle of about 60° to about 85° from vertical.

74. (original) The method of Claim 72, wherein the surface-modifying agent is implanted into the nitride resistive material layer within the container opening and at upper corners of the container opening.

75. (original) The method of Claim 72, wherein the step of implanting the surface-modifying agent further comprises rotating the semiconductor substrate during the implantation.

76. (original) The method of Claim 72, wherein the surface-modifying agent comprises a nitrogen-containing gas selected from the group consisting of trifluoronitride, nitrogen, ammonia, nitrous oxide, and nitric oxide.

77. (original) The method of Claim 72, wherein the surface-modifying agent comprises a silicon-containing gas selected from the group consisting of silicon tetrafluoride, silane, dichlorosilane, trichlorosilane, and silicon tetrachloride.

78. (original) The method of Claim 72, wherein the nitride resistive material layer comprises an insulative material, and the lower electrode comprises a semiconductive material.

79. (original) The method of Claim 72, wherein the nitride resistive material layer comprises an insulative material, and the lower electrode comprises a conductive material.

80. (original) The method of Claim 72, further comprising, after the step of forming the dielectric layer, forming an upper electrode over the nitride layer.

81. (currently amended) A method of forming a capacitor in a semiconductor device, comprising the steps of:

providing a substrate comprising a nitride resistive material layer overlying the substrate, a container opening formed in the nitride resistive material layer; and a lower electrode formed within the container opening; the method comprising the steps of:

while rotating the semiconductor device, implanting a surface-modifying agent by low angle implantation into exposed surfaces of the nitride resistive material layer to implant said agent into the nitride resistive material layer within the container opening and at upper corners of the container opening, the surface-modifying agent capable of modifying the nitride resistive material layer to enhance nitride nucleation thereon; and

forming a nitride dielectric layer over the nitride resistive material layer and the lower electrode, whereby the surface-modifying agent provides for formation of a uniform thickness of the nitride dielectric layer over the nitride resistive material layer and the lower electrode.

82. (original) The method of Claim 81, wherein the surface-modifying agent is implanted at an angle of about 60° to about 85° from vertical.

83. (original) The method of Claim 81, wherein the surface-modifying agent comprises a nitrogen-containing gas selected from the group consisting of trifluoronitride, nitrogen, ammonia, nitrous oxide, and nitric oxide.

84. (original) The method of Claim 81, wherein the surface-modifying agent comprises a silicon-containing gas selected from the group consisting of silicon tetrafluoride, silane, dichlorosilane, trichlorosilane, and silicon tetrachloride.

85. (original) The method of Claim 81, wherein the nitride resistive material layer comprises an insulative material, and the lower electrode comprises a semiconductive material.

86. (original) The method of Claim 81, wherein the nitride resistive material layer comprises an insulative material, and the lower electrode comprises a conductive material.

87. (currently amended) A method of forming a capacitor in a semiconductor device, comprising the steps of:

providing a substrate comprising an insulation layer overlying the substrate, a container opening formed in the insulation layer; and a lower electrode formed within the container opening; the method comprising the steps of:

while rotating the semiconductor device, implanting a surface-modifying agent by low angle implantation at an angle of about 60° to about 85° from vertical into exposed surfaces of the insulation layer to implant said agent into the insulation layer within the container opening and at upper corners of the container opening, the surface-modifying agent capable of modifying said surfaces of the insulation layer to enhance nitride nucleation thereon; and

forming a nitride dielectric layer over the insulation layer and the lower electrode, whereby the surface-modifying agent provides for formation of a uniform thickness of the nitride dielectric layer over the insulation layer and the lower electrode.

88. (original) The method of Claim 87, wherein the surface-modifying agent comprises a nitrogen-containing gas selected from the group consisting of trifluoronitride, nitrogen, ammonia, nitrous oxide, and nitric oxide.

89. (original) The method of Claim 87, wherein the surface-modifying agent comprises a silicon-containing gas selected from the group consisting of silicon tetrafluoride, silane, dichlorosilane, trichlorosilane, and silicon tetrachloride.

90. (original) The method of Claim 87, wherein the lower electrode comprises a semiconductive material.

91. (original) The method of Claim 87, wherein the lower electrode comprises a conductive material.

92-124. (canceled)

125. (currently amended) A method of forming a nitride dielectric layer over a nitride resistive material and a nitride receptive material, the method comprising the steps of:

implanting a surface-modifying agent into exposed surfaces of the nitride resistive material, the surface-modifying agent capable of modifying said surfaces of the nitride resistive material to enhance nitride nucleation thereon;

forming the nitride dielectric layer over the nitride resistive material and the nitride receptive material, wherein the nitride dielectric layer has a substantially uniform thickness over the nitride resistive material and the nitride receptive material.

126. (currently amended) A method of forming a nitride dielectric layer over a nitride resistive material and a nitride receptive material, the method comprising the steps of:

implanting a surface-modifying agent comprising an ionizable nitrogen material into the nitride resistive material, the surface-modifying agent capable of modifying the nitride resistive material to enhance nitride nucleation thereon; and

forming the nitride dielectric layer on the nitride resistive material and the nitride receptive material, wherein the nitride dielectric layer has a substantially uniform thickness over the nitride resistive material and the nitride receptive material.

127. (currently amended) A method of forming a nitride dielectric layer over a nitride resistive material and a nitride receptive material, the method comprising the steps of:

implanting a surface-modifying agent comprising an ionizable silicon material into the nitride resistive material, the surface-modifying agent capable of modifying the nitride resistive material to enhance nitride nucleation thereon; and

forming the nitride dielectric layer on the nitride resistive material and the nitride receptive material, wherein the nitride dielectric layer has a substantially uniform thickness over the nitride resistive material and the nitride receptive material.

128. (currently amended) A method of forming a dielectric layer over a substrate comprising adjacent portions of an insulative material and a semiconductive material, the method comprising the steps of:

implanting a surface-modifying agent comprising a nitrogen-containing gas or a silicon-containing gas into the insulative material, the surface-modifying agent capable of modifying the insulation material to enhance nitride nucleation thereon; and

forming the dielectric layer on the insulative material and the semiconductive material, wherein the dielectric layer has a substantially uniform thickness over the dielectric layer over the insulative material and the semiconductive material of the substrate.

129. (currently amended) A method of forming a dielectric layer over a substrate comprising adjacent portions of an insulative material and a conductive material, the method comprising the steps of:

implanting a surface-modifying agent comprising a nitrogen-containing gas or a silicon-containing gas into the insulative material, the surface-modifying agent capable of modifying the insulation material to enhance nitride nucleation thereon; and

forming the dielectric layer on the insulative material and the conductive material, wherein the dielectric layer has a substantially uniform thickness over the dielectric layer over the insulative material and the conductive material of the substrate.

130. (currently amended) A method of forming a nitride dielectric layer in a capacitor container in a semiconductor substrate, the capacitor container formed in a layer comprising a nitride resistive material, and a lower electrode comprising a nitride receptive material formed within the container; the method comprising the steps of:

implanting a surface-modifying agent by low angle implantation into exposed surfaces of the nitride resistive material layer, the surface-modifying agent capable of modifying said surfaces of the nitride resistive material layer to enhance nitride nucleation thereon; and

forming the nitride dielectric layer over the nitride resistive material layer and the lower electrode, wherein the nitride dielectric layer has a substantially uniform thickness over the nitride resistive material layer and the lower electrode.

131. (currently amended) A method of forming a nitride dielectric layer in a capacitor container in a semiconductor substrate, the capacitor container formed in a layer comprising a nitride resistive material, and a lower electrode comprising a nitride receptive material formed within the container; the method comprising the steps of:

while rotating the semiconductor substrate, implanting a surface-modifying agent by low angle implantation into exposed surfaces of the nitride resistive material layer within and about a circumference of the container, the surface-modifying agent capable of modifying said surfaces of the nitride resistive material layer to enhance nitride nucleation thereon; and

forming the nitride dielectric layer over the nitride resistive material layer and the lower electrode, wherein the nitride dielectric layer has a substantially uniform thickness over the nitride resistive material layer and the lower electrode.

132. (currently amended) A method of forming a nitride dielectric layer in a capacitor container in a semiconductor substrate, the capacitor container formed in an insulation layer, and a lower electrode formed over the insulation layer within the container; the method comprising the steps of:

implanting a surface-modifying agent comprising an ionizable nitrogen-containing gas by low angle implantation into exposed surfaces of the insulation layer within and about a

circumference of the container, the surface-modifying agent capable of modifying said surfaces of the insulation layer to enhance nitride nucleation thereon; and

forming the nitride dielectric layer over the insulation layer and the lower electrode, wherein the nitride dielectric layer has a substantially uniform thickness over the insulation layer and the lower electrode.

133. (currently amended) A method of forming a nitride dielectric layer in a capacitor container in a semiconductor substrate, the capacitor container formed in an insulation layer, and a lower electrode formed over the insulation layer within the container opening; the method comprising the steps of:

implanting a surface-modifying agent comprising an ionizable silicon-containing gas by low angle implantation into an exposed surface of the insulation layer within and about a circumference of the container, the surface-modifying agent capable of modifying said surface of the insulation layer to enhance nitride nucleation thereon; and

forming the nitride dielectric layer over the insulation layer and the lower electrode, wherein the dielectric layer has a substantially uniform thickness over the insulation layer and the lower electrode.

134. (currently amended) A method of forming a capacitor in a semiconductor device, comprising the steps of:

providing a substrate comprising an nitride resistive material layer overlying the substrate, a container formed in the nitride resistive material layer; and a lower electrode comprising a nitride receptive material formed within the container; the method comprising the steps of:

implanting a surface-modifying agent by low angle implantation into exposed surfaces of the nitride resistive material layer, the surface-modifying agent capable of modifying said surfaces of the nitride resistive material layer to enhance nitride nucleation thereon; and

forming a nitride dielectric layer of a substantially uniform thickness over the nitride resistive material layer and the lower electrode.

135. (currently amended) A method of forming a capacitor in a semiconductor device, comprising the steps of:

providing a substrate comprising a nitride resistive material layer overlying the substrate, a container formed in the nitride resistive material layer; and a lower electrode formed within the container; the method comprising the steps of:

while rotating the semiconductor device, implanting a surface-modifying agent by low angle implantation into exposed surfaces of the nitride resistive material layer to implant said agent into the nitride resistive material layer within the container and at upper corners of the container opening, the surface-modifying agent capable of modifying said surfaces of the nitride resistive material layer to enhance nitride nucleation thereon; and

forming a nitride dielectric layer of a substantially uniform thickness over the nitride resistive material layer and the lower electrode.

136. (currently amended) A method of forming a capacitor in a semiconductor device, comprising the steps of:

providing a substrate comprising an insulation layer overlying the substrate, a container formed in the insulation layer; and a lower electrode formed within the container; the method comprising the steps of:

while rotating the semiconductor device, implanting a surface-modifying agent by low angle implantation at an angle of about 60° to about 85° from vertical into exposed surfaces of the insulation layer to implant said agent into the insulation layer within and about a circumference of the container, the surface-modifying agent capable of modifying said surfaces of the insulation layer to enhance nitride nucleation thereon; and

forming a nitride dielectric layer of a substantially uniform thickness over the insulation layer and the lower electrode.